

California Water At Risk From Abandoned Sierra Nevada Mines

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A Sierra Nevada Conservancy pilot project is intended to reduce contaminated runoff from an abandoned mine in Nevada County.

Bob Kingman / Sierra Nevada Conservancy

Along the western slopes of the Sierra Nevada, runoff pollution from abandoned mines in "Gold Country" could threaten California's primary water supply. A pilot project at one mine site is intended to prevent contaminated runoff from reaching the Yuba River.

The [Sierra Nevada Conservancy \(http://www.sierranevada.ca.gov/\)](http://www.sierranevada.ca.gov/) said more than 60 percent of California's water supply comes from forests in the Sierra Nevada. The state agency says the health of many of those forests is in decline.

Joan Keegan, Conservancy Assistant Executive Officer, said abandoned mines with contaminated soil are a "huge problem."

"There are 47,000 abandoned mine lands in California that have been inventoried and over half of those are in the Sierra Nevada," said Keegan. "And of those, there are 3,000 that are known to contain chemical hazards, including mercury."

Keegan said there are probably more mines in the Sierra Nevada with chemical hazards that haven't been assessed.

She said contaminated soil from abandoned mines drains in waterways that flow to the Sacramento-San Joaquin River Delta.

"Basically, a lot of the mercury and other toxins, that are a result of abandoned mine lands in the Sierra, have and continue to make their way downstream into the Delta," said Keegan.

Keegan said the majority of those abandoned mines are in "Gold County" including El Dorado and Placer counties.

But she called Nevada County a "hotbed" for those mines.

The Conservancy has awarded a \$176,000 grant to the [Tahoe National Forest \(http://www.fs.usda.gov/tahoe/\)](http://www.fs.usda.gov/tahoe/) for a pilot project to clean up abandoned mine sites in Nevada County.

Keegan said the project will use wood chips, from a nearby forest thinning project, to stabilize the soil at two different hydraulic mine sites, and keep toxic sediments, including mercury, from entering watersheds that feed the South Fork of the Yuba River.

She said the soil at the sites is denuded from the hydraulic mining and the wood chips "will hopefully regenerate that sterile soil."

"We're hoping the combination of planting new vegetation and the wood chips will work to reduce runoff from the site into the nearby waterways, and with it, the toxins on the mine sites," said Keegan. "We hope this improves the soil over the long term and the water will soak in, rather than runoff."

Keegan said the Nevada County project is funded with [Proposition 84 \(http://www.capradio.org/33452\)](http://www.capradio.org/33452) funds.

Sierra Nevada Forest Health Projects Need More Funding

Keegan said the abandoned mines may be in the Sierra Nevada, but the problems impact the water supply for much of California.

Keegan said the Conservancy will receive \$25 million in funds from the [water bond \(http://www.capradio.org/35942\)](http://www.capradio.org/35942) passed by California voters in November.

"That certainly is not enough, so we're working to get other sources of funding to pay for more projects to restore the health of Sierra Nevada forests," said Keegan.

In September, the Sierra Nevada Conservancy issued a report on the health of Sierra Nevada forests. The [State of the Sierra Nevada's Forests Report \(http://www.sierranevada.ca.gov/our-work/state-of-the-sierra\)](http://www.sierranevada.ca.gov/our-work/state-of-the-sierra), said many forests are in rapid decline.

"Sierra Nevada forests are critical to the health of California but decades of fire suppression and legacy mining activities place the benefits they provide at risk," said Jim Branham, Executive Officer for the Sierra Nevada Conservancy, when the report was released.

Among the key findings are that wildfires are contributing to a decline in the water quality.

"The amount of area consumed by fire in the Sierra Nevada continues to increase," according to the report. "More land has burned in the first four-and-a-half-years of this decade than seven entire decades in the past.

"High-intensity burn areas can experience runoff and erosion rates five to ten times greater than low- or moderate-intensity burn areas. The sediment that is carried in the runoff not only degrades water quality and damages infrastructure, it fills reservoirs, reducing storage capacity."

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